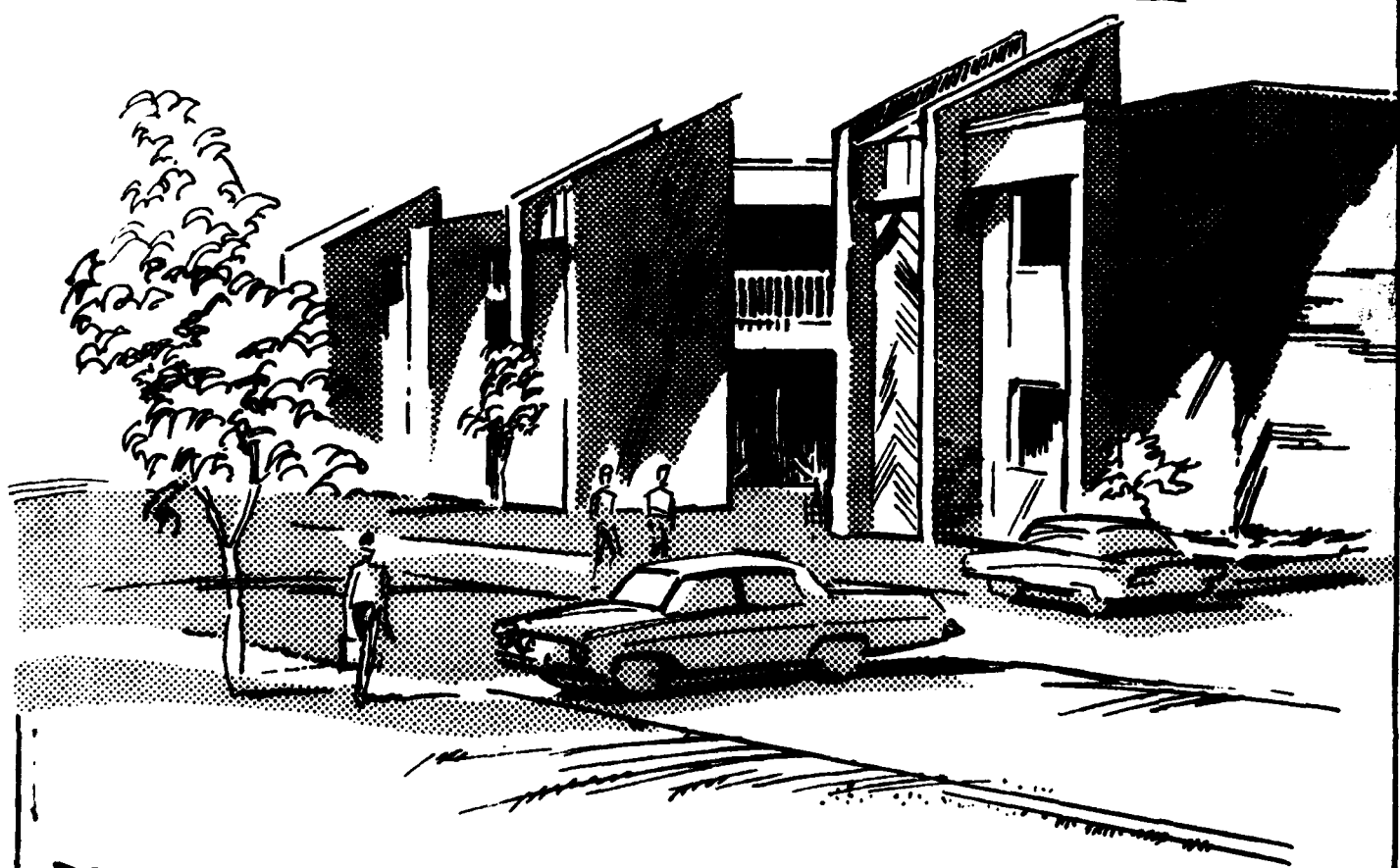
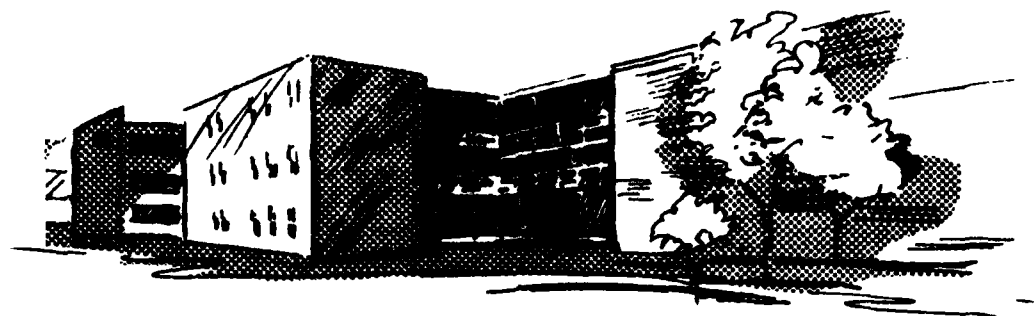


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Unaccompanied Personnel Housing



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A PROGRAMMING HANDBOOK

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A PROGRAMMING HANDBOOK

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Submitted to the faculty in partial fulfillment of
requirements for graduation.

AIR COMMAND AND STAFF COLLEGE
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This handbook provides detailed guidance on how to plan and develop unaccompanied personnel housing (UPH) projects. It provides an overview of the functional responsibilities of base agencies involved in the programming process and detailed information on Civil Engineering and Services responsibilities. The handbook contains step-by-step instructions for completing DD Forms 1657, 1391, and 1391c. The handbook references documents and regulations pertinent to the programming process and compiles some basic tips for success in "selling" a project. It could be especially helpful for personnel newly assigned to the UPH programming process.		

PREFACE

In 1976 the Directorate of Engineering and Services, Headquarters, United States Air Force, initiated the first Unaccompanied Personnel Housing (UPH) Program. The five-year phased program was developed in response to the increased emphasis being given to quality of life issues by senior Air Force leaders. The goal of the program was, and remains today, to provide each unaccompanied personnel housing occupant with the best possible living conditions within the area and cost limitations imposed by the Department of Defense and Congress.

Today, almost eight years later, the Unaccompanied Personnel Housing Program is stronger than ever with program growth showing a steady upward trend. During each successive programming year, however, competition for scarce military construction funding has become more intense. Thus, Air Force personnel involved in UPH programming must "work harder and think smarter" to ensure support for this vital program is not eroded in future years.

The purpose of this handbook is to provide a guide to assist personnel involved in UPH planning or programming. Use of the guide can aid in the preparation and submittal of quality programming documentation. The handbook consists of excerpts from regulations and policies plus procedures and common sense practices which have been found successful in previous military construction programming years. It may be used as a source to solve any unanswered questions about existing programming procedures and techniques, and it may serve as a training aid for new personnel doing UPH programming for the very first time.

This handbook will not address programming aspects in so far as the actual Program Objective Memorandum (POM) submittal requirements. That guidance is provided each year in the annual Military Construction Program (MCP) guidance issued by HQ USAF/LEEP. However, the handbook will provide the necessary foundation to validate and develop UPH projects and will provide a "road map" to enable Engineering and Services personnel at all levels to become familiar with the responsibilities and functions of the other. In this way, the two organizations can work together as a unified team in the total programming process.

CONTINUED

This document will be published as a Headquarters
USAF/LEE handbook after review and approval of content by
HQ USAF/LEE.

ABOUT THE AUTHOR

Major Hedy C. Pinkerton is a career Services Officer who served as a Services officer at Barksdale Air Force Base, Louisiana; Castle Air Force Base, California; Kunsan Air Base, Korea; and Plattsburgh Air Force Base, New York. In 1979 she was assigned to the Directorate of Engineering and Services, Headquarters, United States Air Force, for slightly over four years. Major Pinkerton has a Bachelor of Science degree in Home Economics from Northwestern State University, Louisiana, and has completed extensive graduate work in Family Counseling at Chapman College, Orange, California. She is currently enrolled in a Master of Arts program in Personnel Counseling at Troy State University, Montgomery. She has completed Squadron Officers' School and is presently a resident student at the Air Command and Staff College. In 1978 Major Pinkerton was listed among the Outstanding Young Women of America. Major Pinkerton spent the last four years at the Pentagon working both military family housing and unaccompanied personnel housing issues. Her last two years on the Air Staff were devoted exclusively to unaccompanied personnel housing programming.

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CHAPTER ONE

INTRODUCTION

The process of developing an Unaccompanied Personnel Housing project is complex and requires many related actions and much coordination between Civil Engineering (CE) and Services (SV). Thus, the first step in developing a UPH project is to become familiar with the responsibilities of the two agencies and the interface required between the two. Both play a vital part in building any program submittal.

The purpose of this chapter is to provide an overview of the UPH programming process to help you understand the framework within which a project is developed. It will outline the basic functions of CE and SV in developing a project submittal and show how the two organizations must work together. It will also address the interface of SV and CE with other base organizations. You can then see "who has responsibility for what" as a project progresses. Later chapters will address in depth the specific actions required by CE and SV.

ESTABLISHMENT OF A VALIDATED NEED

Before any action can be taken to develop a UPH project, a validated need must be established. A validated need exists whenever there is not enough UPH on an installation to meet current housing needs or when the existing facilities do not meet adequacy standards. Validation is done by Services personnel who complete the DD Form 1657, Determination of Bachelor Housing Requirements.

Completion of the DD Form 1657 is covered in AFR 90-2, Annual Survey and Determination of Family and Bachelor Housing Requirements. Although AFR 90-2 does not specifically state that SV must complete the DD Form 1657, they are the logical choice since historically they have been most aware of any existing housing deficits. Services must work with other base agencies, however, to obtain necessary information to complete the form as shown in Figure 1-1.

a. Services first contacts the CBPO and the MET to obtain the personnel and strength information necessary to complete the sections of the DD Form 1657 dealing with personnel strengths. Then SV contacts the CE Military Family Housing (MFH) office to obtain the family housing

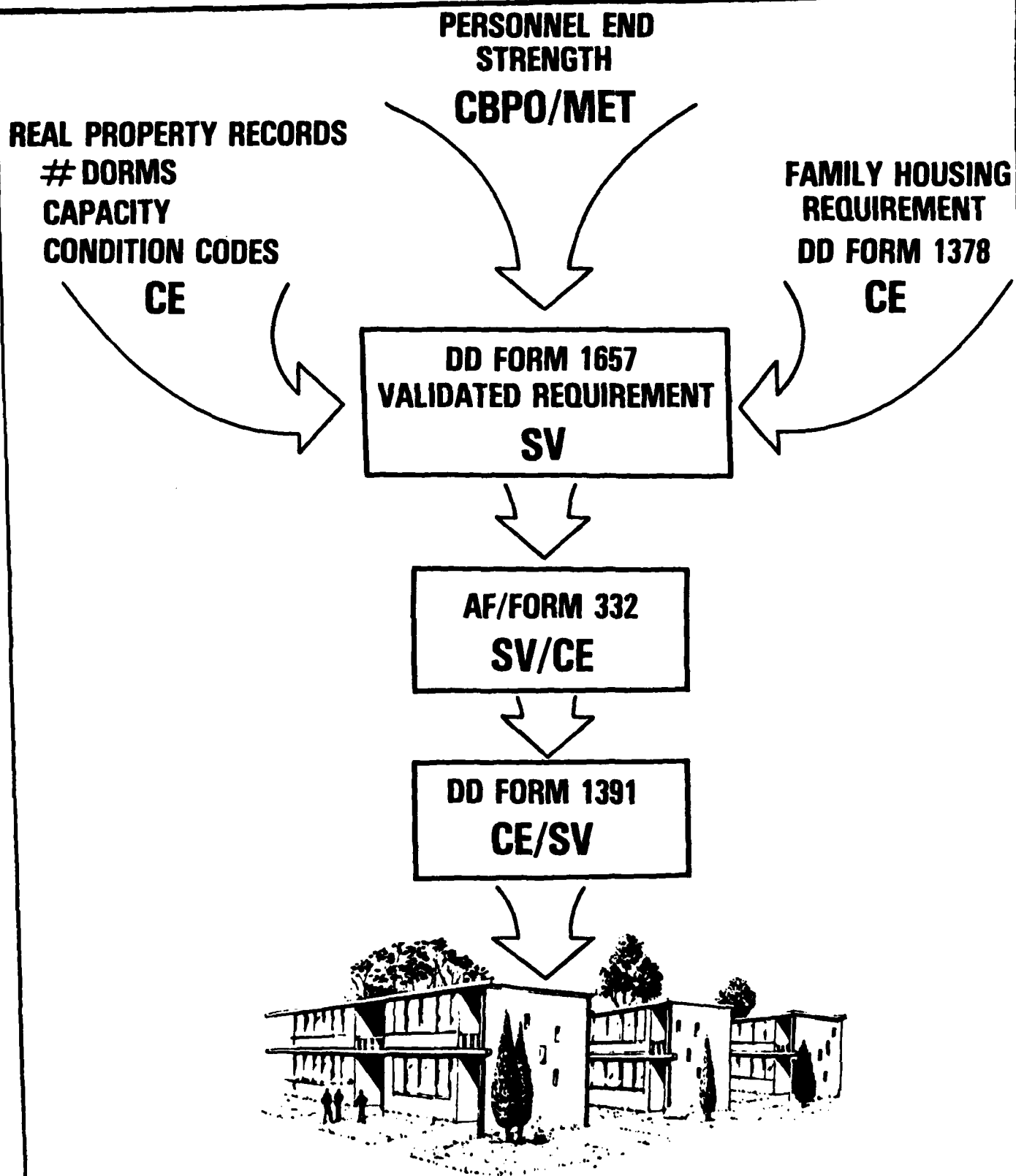


Figure 1-1. Interface of Civil Engineering and Services

requirement from the DD Form 1378, Determination of Housing Requirements and Project Composition. If SV finds that the personnel end strength data used on the DD Form 1378 is different than that obtained from the CBPO and the MET, they must work with the CBPO, MET, and MFH office to determine why any differences exist and reconcile the numbers. This is important because the UPH requirement is derived by subtracting the MFH requirement from the overall manpower strength levels and any deviation in personnel end strengths will affect the UPH requirement. (Details of this will be discussed at length in Chapter II.)

b. After completion of the personnel strength data required on the form, Services must contact the CE Real Estate Section to obtain the number of existing UPH facilities; the rated capacity of each facility; and the condition code of each reported facility. This information is used to complete the sections of the DD Form 1657 dealing with existing facilities.

c. Services' next step is to calculate the current occupancy rates for existing facilities, both permanent party and transient, and to determine the number of unaccompanied personnel who have been granted permission to reside off-base and draw Basic Allowance for Quarters (BAQ). Services coordinates with the Accounting and Finance Office to determine the number of unaccompanied personnel authorized to live off-base and receive BAQ. If a large number of lower-grade personnel (E-1 through E-3) are living off-base, this is usually a good clue that a housing deficit exists. Services then coordinates with the base Billeting Office to get the average occupancy rate for on-base UPH facilities.

d. After accumulating all the required data, SV enters the information in the appropriate sections of the DD Form 1657 in accordance with AFR 90-2 and completes the necessary computations called for on the form. Upon completion of the form, SV can determine whether or not a programming deficit actually exists and whether it is a requirement for new construction or modernization of existing UPH facilities.

DEVELOPMENT OF A PROJECT

Services reviews the DD Form 1657 after they have completed it to see if a validated UPH deficit exists. If the form shows an actual shortage of UPH spaces or that there are not enough UPH spaces meeting current adequacy standards, SV submits an AF Form 332 to CE requesting the actual construction desired. Usually construction is

planned when the DD Form 1657 reflects a deficit of approximately 90 spaces in accordance with guidance contained in the current Enlisted Dormitory Construction Guide.

Actual completion of the AF Form 332 and the base level approval process that the form must go through will not be addressed in this handbook. However, it is important to note that on the AF Form 332 SV must state exactly what kind of project is needed (new construction or modernization of an existing facility), the number of spaces required, and must provide a solid justification explaining why the construction is needed that will "sell" the project.

After the AF Form 332 has gone through the base level approval process and the project requirement has been approved, the DD Form 1391 which actually develops the project for submittal to the Major Command and through the Program Objective Memorandum (POM) process must be submitted. The DD Form 1391 is the primary responsibility of the Civil Engineer.

a. To complete the DD Form 1391, CE reviews the AF Form 332 to determine the exact number of UPH spaces needed and whether the requirement is for new construction or modernization of an existing facility. The CE should also double check with SV to ensure that the number of spaces requested in the project does not exceed the total UPH deficit validated on the DD Form 1657, and that the project is being planned for the grade mix for which the deficit exists. Finally, the CE must ensure that the project agrees with the type of deficit shown on the DD Form 1657: an actual shortage of space; required replacement of existing substandard facilities; or modernization of an existing inadequate facility.

b. After determining the size and type of project, the Civil Engineer will calculate the correct size and cost of the facility. Additionally, CE will provide a description of the proposed construction. Here again CE must coordinate with SV to determine if there are any special design requirements to be incorporated into the design.

c. Coordination is also required between CE and SV to ensure the current on-base UPH requirement and the number of existing UPH facilities correlate between the DD Form 1391 and the DD Form 1657. If a careful record has been maintained as backup data for the DD Form 1657 listing rated capacity and condition code of each existing facility, this should be easily matched.

d. The final coordination required between CE and SV is in the narrative portion of the DD Form 1391. First, CE fills in the current situation block of the DD Form 1391 (facility age and condition code). Then CE must check with SV to see what phase of the UPH program the project will fall within.

RECAPITULATION OF CIVIL ENGINEERING AND SERVICES ROLES

A brief recapitulation of the information provided thus far on the role of Civil Engineering and Services in developing a UPH project is as follows in the checklist below. Each of these items will be discussed in depth in chapters which follow.

- I. Unaccompanied personnel housing is the dual responsibility of Civil Engineering and Services.
 - A. The role of Services is to establish the UPH requirement based on the DD Form 1657.
 - B. The Civil Engineer prepares the DD Form 1391 programming document based on the Services assessment of need.
- II. Services is responsible for compiling the data and completing the DD Form 1657.
 - A. Services must obtain manpower figures and any projected manpower increases from the Central Base Personnel Office and correlate these with manpower data contained on the DD Form 1378 (Military Family Housing Survey).
 - B. The number of existing UPH assets and condition codes must be obtained from Services and from Civil Engineering.
 - C. Services must calculate current occupancy rates in existing facilities.
 - D. Services must provide the number of personnel in private housing off-base drawing single rate BAQ.

- E. Services must provide the on-base housing requirement from the completed DD Form 1657 to Civil Engineering for use in completing the DD Form 1391.
 - F. Services must submit AF Form 332 with good rationale on why the project is needed and what the impact will be if the project is not approved.
- III. The Civil Engineer is responsible for maintaining real property information and completing the DD Form 1931.
- A. The Civil Engineer must track the number of existing UPH assets, their current use, and their condition code.
 - B. The Civil Engineer must provide Services with assets information necessary for completion of the DD Form 1657.
 - C. The Civil Engineer must complete DD Form 1391 when Services advises of a validated unaccompanied personnel housing deficit based upon the completed DD Form 1657, and submittal of AF Form 332, Work Request.
- IV. Civil Engineering and Services must work together to make sure the justification will "sell" the project.

CHAPTER TWO

DD FORM 1657 - THE KEY TO VALIDATING REQUIREMENTS

Many people in the Major Commands have complained that the DD Form 1657, Determination of Bachelor Housing Requirements, is one of the poorest tools ever developed on which to base an unaccompanied personnel housing program. The form has no logical mathematical flow, contains unfamiliar terminology, and requires data inputs from more than one base organization. Additionally, the instructions provided in AFR 90-2, Annual Survey and Determination of Family and Bachelor Housing Requirements, tend to be confusing for someone who is completing the form for the first time.

The purpose of this chapter is to provide an overview of organizational responsibilities, give some key definitions and source documents, and provide some clear-cut instructions to aid in completing a DD Form 1657.

OFFICE OF PRIMARY RESPONSIBILITY

At most installations, the Services squadron has the responsibility for completing the DD Form 1657. However, the Billeting Office is usually delegated the actual task of filling out the form since they have the most information available on occupancy of Unaccompanied Personnel Housing (UPH). For example, Billeting monitors the utilization of both permanent party and transient quarters. They also ensure the most efficient utilization of all on-base UPH assets so that needless expenditure of both Basic Allowance for Quarters (BAQ) and per diem funds is prevented. As a result of this monitoring of UPH assets, Billeting usually first recognizes that there is a shortage of on-base housing. In some cases, Billeting can change the use of facilities from permanent party use, if there is an excess of this type of quarters, to transient quarters or vice versa, and the deficit can be solved. In many cases, however, a new facility is required if all on-base assets are being used.

Before a new facility can be requested, Billeting, or the office designated responsible by the installation commander, must prove there is a need for more on-base housing by properly completing a DD Form 1657, Determination of Bachelor Housing Requirements. However, before beginning work on the form, the responsible person should become

familiar with some source documents and regulations, plus the functions of some other base organizations since information to complete the form is collected from more than one source. One of the first steps is to become familiar with the following regulations and source documents.

PERTINENT REGULATIONS AND SOURCE DOCUMENTS

There are three basic regulations to aid the person filling out the DD Form 1657. These are as follows:

(a) AFR 90-2, Annual Survey and Determination of Family and Bachelor Housing Requirements, is the "Bible" for completing the form. This regulation contains step-by-step instructions for filling out the DD Form 1657.

(b) AFR 90-9, Bachelor and Transient Quarters, provides adequacy standards for assignment purposes and states the minimum occupancy rates which must be maintained in UPH facilities. It also provides the Air Force policy on programming quarters by grades of personnel.

(c) AFM 86-2, Standard Facility Requirements, provides new construction standards which will aid in determining adjustment factors if you are altering an existing facility.

In addition to the regulations, the following are some basic source documents to become familiar with. These documents help properly identify the number of people that require on-base housing and tell how many UPH resources are currently available.

(a) Daily Occupancy Report - This is either a locally devised or MAJCOM form which provides Billeting a daily occupancy report of unaccompanied personnel, by grade, housed in permanent party dormitories. Also, a daily occupancy report is maintained by Billeting for all transient personnel.

(b) AF Form 515, Bachelor Housing and Transient Facility Utilization/Occupancy Report - This report is used to monitor the inventory and use of all UPH assets. It contains information from the daily occupancy reports. The consolidated data on this form shows how existing UPH assets are being used and quickly identifies areas where any shortages or overages of assets may be.

(c) DD Form 2085, Unaccompanied Personnel Housing Inventory and Occupancy Data - This report is forwarded by HQ AFESC/DEH to the Department of Defense to show current

utilization of existing facilities. The Department of Defense reviewing officials use this form to validate data reported on the DD Form 1657.

(d) Real Property Records - These records are maintained by the CE Real Property Office and provide the current rated capacity and condition code of each UPH facility on the installation. These records are essential in determining whether an existing UPH facility should be programmed for replacement or upgrade and the total number of assets on the installation.

THE ROLE OF OTHER BASE ORGANIZATIONS

After becoming familiar with the basic regulations and documents relating to the DD Form 1657, the next step is to understand how other base organizations help complete the portions of the form dealing with personnel strengths and existing UPH assets.

The first information needed is personnel data, both current and projected strengths. Obtain this information from the Central Base Personnel Office (CBPO), the installation Manpower Management Engineering Office (MET), and the Civil Engineering Family Housing Office.

a. Current Personnel Strength. This is simply the number of personnel now authorized for assignment to the installation. It is used to complete items 1-6 of the DD Form 1657. Get the data as shown below.

(1) The Central Base Personnel Office and the Base Manpower Management Office. First obtain the most current personnel strength authorized for the base from either of these offices. Both maintain the authorized personnel manning (PM) documents. It is important to use the most current personnel documents since any projected change in authorizations could significantly change the UPH requirement. Also, be sure to obtain this authorized strength data by grade shred-out. The DD Form 1657 requires a precise grade break out due to the different housing space authorizations for different grade personnel.

After you have collected this data, the next step is to compare these numbers with the strength figures annotated on the DD Form 1378.

(2) The Civil Engineering Military Family Housing (MFH) Office will give you a copy of the most recent DD Form 1378, Determination of Housing Requirements and Project

Composition. Compare the personnel strength information listed on line 7 of the DD Form 1378 with the data obtained from the PM. These figures must be exactly the same because a variation in numbers will affect the UPH requirement. This is because the family housing requirement, which is computed only on the DD Form 1378, is subtracted from the total authorized personnel strength to obtain the UPH requirement. As shown in the hypothetical example in Figure 2-1, a DD Form 1657 completed using personnel strength figures different than those used on the DD Form 1378 results in the requirement being either overstated or understated.

<u>DD Form 1378 Information</u>		
Personnel Strength (DD Form 1378 Line 1)	-	5000
Family Housing Requirement (DD Form 1378 Line 7)	-	2000
UPH Requirement		3000
<u>DD Form 1657 Information</u>		
Personnel Strength (DD Form 1657, Line 20)	-	4000
Family Housing Requirement (DD Form 1378, Line 7)	-	2000
UPH Requirement		2000

Figure 2-1. Correlating Personnel Strength Data

Thus, as you can see in this particular example, the UPH requirement is overstated or understated by 1000 spaces, depending upon whether the PM authorized strength data was used or the DD Form 1378 data was used. Therefore, it is crucial to have the personnel strengths agree.

If the personnel strength data does not agree between the two forms, SV must work with the CE Military Family Housing (MFH) office to determine where they obtained their

personnel end strength information. Factors to check are basically:

a. Did the CE MFH office and SV use the same fiscal year population figures to compute the DD Form 1378 and the DD Form 1657?

b. Did either the CE MFH office or the CBPO/MET include some additional strength data based on a new mission or classified information which the other did not have access to?

c. Was a simple mathematical error made?

After collecting the current personnel strength data, the next step is to look at the projected personnel strength data.

b. Projected Personnel Strength. This is simply the number of personnel the installation is authorized to have assigned during future fiscal years. It may increase or decrease if there are any projected mission changes. Obtain the projected personnel strength data (to be used on lines 14-22 of the DD Form 1657) from the PM also. This information is normally available from the Base Manpower Management Engineering Office. This data will project authorized personnel strengths for coming fiscal years. Thus, it is possible to look downstream to ensure there is not a new mission coming in which must be planned for or conversely ensure there is not a mission draw-down projected which would leave an excess of UPH assets. Again, ensure that the personnel figures are the same as those used on the DD Form 1378. To avoid confusing the person reading the DD Form 1657, write in on line 14 of the DD Form 1657 the PM used, i.e., 4th quarter, FY 89, etc.

Obtaining a grade shred-out for the projected personnel strength requires some mathematical computations. To obtain a grade shred-out, first determine the grade percentages of the current personnel strength (DD Form 1657, lines 2-7, columns A-H). Then apply these percentages to long-range total strengths to obtain columns K, L, P, Q, and R, line 20 as shown in Figure 2-2.

The DD Form 1657, line 2, shows 600 E-7 through E-9 personnel now assigned to the installation. The current personnel strength is 5000. Thus, the percentage of assigned E-7s through E-9s is 12 percent.

$$\frac{600 \text{ (E-7 - E-9s assigned)}}{5000 \text{ (current personnel strength)}} = 12 \text{ percent E-7 - E-9s}$$

If the DD Form 1657, line 15, then shows the projected long-range overall strength data for the base as an increase in population from 5000 to 7000, the number of E-7 through E-9s can be projected by using the current percent assigned.

$$\begin{array}{r} 7000 \text{ total projected long range strength} \\ \times \text{ 12\% current percent E-7 - E-9s} \\ \hline 840 \text{ E-7 - E-9s projected} \end{array}$$

Figure 2-2. Projecting Personnel Strengths by Grade

REVIEW OF FACILITIES

To determine the number of existing spaces or the total rated capacity of assets available on the installation, review each room and bathroom for every Visiting Officer Quarters (VOQ), Visiting Airmen Quarters (VAQ), Unaccompanied Enlisted Personnel Housing (UEPH), and Unaccompanied Officer Personnel Housing (UOPH) facility on base. During the review, ignore the way the building is now being used. Instead, decide what is now available and how these spaces can be used most efficiently. Also find out the condition code of each building.

To accomplish a review of facilities, do two things. First, go to the Civil Engineering Real Property office and review their listing for all UPH facilities. Next, complete a physical inspection of existing assets to see that these actually agree with information contained in the real property records. Before beginning a review of UPH assets, however, become familiar with the following terms:

a. Minimum adequacy standards - These standards, contained in AFR 90-9, Table 2-1, determine whether a room meets minimum OSD and Air Force minimum criteria for assignment purposes. NOTE: Temporary waivers to adequacy standards should be ignored when actually reporting the assets on the DD Form 1657.

b. New construction standards - These standards, outlined in AFM 86-2, Table 15-1, state criteria which must be followed when a new UPH facility or major alteration project is being programmed.

c. Condition Code 1 (Adequate) - Currently meets criteria; a facility which can be used for its designated purpose without permanent alteration. For UPH purposes, this is a facility of permanent construction (brick or masonry) with a room-bath-room configuration.

d. Condition Code 2 (Substandard but may be upgraded) - Upgrading is required and practical. The facility is structurally sound, and is of sound, permanent construction. For UPH purposes, this would be brick or masonry facilities which currently have "gang" latrines and/or three-person rooms. Additionally, the facility will usually have inadequate electrical and plumbing systems, poor sound attenuation features, etc. NOTE: A facility which is in otherwise adequate condition cannot be upgraded for the sole reason of providing semiprivate rooms and baths. However, most of the facilities with "gang" latrines and three-person rooms in the Air Force inventory are at least twenty-five years old and are in need of general upgrade.

e. Condition Code 3 (Substandard but may not be upgraded) - A temporary facility which does not meet even minimum adequacy standards and cannot be altered under existing OSD criteria. For UPH purposes, these are wooden facilities usually built during World War II or the Korean War era and have three-person rooms, "gang" latrines, etc.

f. Permanent construction - A facility suitable and appropriate to serve a specific purpose for a maximum period of time (at least twenty-five years) and with a minimum of maintenance.

g. Semipermanent construction - A facility suitable and appropriate to serve a specific purpose for a limited period of time (less than twenty-five years, but more than five years) and with a moderate-to-high degree of maintenance.

h. Temporary construction - A facility suitable and appropriate to fill a need for a short period of time (five years or less) without regard to degree of maintenance and the designs and details of which provided minimum facilities with maximum initial economy.

There are two factors to note here for UPH programming purposes. First, OSD considers a facility to be "permanent" construction for alteration purposes only if it is of brick or masonry construction. Wooden buildings may not be altered under the military construction program. Secondly, there are many "temporary" type construction UPH facilities in use for more than twenty-five years. This may be due to lack of funds for new facilities or perhaps the facility is still adequate for use. At any rate, program all wooden buildings for replacement in some future fiscal year program.

After becoming somewhat familiar with the above definitions, visit the Civil Engineering Real Property office and obtain real property records for the following facility codes:

- a. 721-311 and 721-312 - Unaccompanied Enlisted Personnel Housing.
- b. 721-315 - Visiting Airmen Quarters.
- c. 724-415 - Unaccompanied Officer Personnel Housing.
- d. 724-417 - Visiting Officer Quarters.

After reviewing these records, complete a physical inventory of each building.

PHYSICAL INVENTORY OF UPH

Even if reasonably sure that the real property records are correct for the installation's UPH assets, do a complete physical inventory of each facility. While doing this, actually measure the rooms to ensure they meet current adequacy criteria. A physical inventory is especially important if a base is just beginning a UPH Five-Year Improvement Plan. This is because in some cases dormitories were altered over the years and the rated capacity was lessened. However, the real property records were not always changed to reflect this. Also, the condition code of the facility may have changed due to age or type construction. Finally, the facility may no longer be used as UPH. If there are any differences between the real property records and the actual

condition of the facility, request the Facilities Board approve changes to the records. Then CE will submit an AF Form 123 so that the real property records can be updated.

After determining the correct condition code and the proper rated capacity, it is time to begin recording assets data for the DD Form 1657. Be sure to use the correct data found during the physical UPH inventory on the DD Form 1657. Indicate any discrepancy between this data and the real property records in the remarks section of the DD Form 1657. Also state the date the AF Form 123 was submitted to correct the data. Place information on existing assets on a supplemental data sheet to submit with the DD Form 1657.

SUPPLEMENTAL DATA SHEET

The supplemental data sheet is another key to successful completion of the DD Form 1657. It enables anyone reviewing a UPH project to track precisely the capacity of any specific dormitory. The sheet also shows any re-rating steps you may have gone through in transferring the assets to the DD Form 1657. The supplemental sheet must show each building in three different ways: real property rating (Real Property Records); minimum adequacy standards (AFR 90-9, Table 2-1); and the rated capacity in accordance with new construction standards (AFM 86-2, Table 15-1). The sheet must also list the buildings by condition codes and reflect the type construction and date of construction of each facility. A sample format for a supplemental data sheet is contained in Figure 2-4.

With the data gathered for the supplemental data sheet and the personnel information obtained, begin filling out the DD Form 1657.

COMPLETING THE DD FORM 1657

If the personnel data and facility data have been gathered as outlined in the advance preparation stages above, it should be very little trouble to actually complete the DD Form 1657. Since many people have stated that the existing procedures for completing the form contained in AFR 90-2 are vague and hard to follow, a check list is provided to help you fill out the form. Additionally, some "tips" are given to help you avoid some of the areas where mistakes are most commonly made. The check list begins on the following page. An example of a properly completed DD Form 1657 is provided in Figure 2-3.

DETERMINATION OF BACHELOR HOUSING REQUIREMENTS										REPORT CONTROL SYMBOL							
CURRENT PERSONNEL STRENGTH										INVENTORY OF EXISTING BACHELOR HOUSING							
OFFICERS										ENLISTED							
1. AS OF	2. CATEGORY	3. A. ST. NO.	4. B. ST. NO.	5. C. TOTAL	6. D. RECRUITS	7. E. ST. NO.	8. F. ST. NO.	9. G. ST. NO.	10. H. TOTAL	11. I. CATEGORY OF HOUSING	12. J. OFFICER	13. K. ENLISTED	14. L. PERCENTAGE				
30 Jan 84																	
OF PERSONNEL		168	344	512	0	1042	526	138	1706	0	200	0	0				
2. PERMANENT PARTY		417	13	430	0	0	0	0	0	0	0	0	0				
3. PCS STUDENTS		0	0	0	0	0	0	0	0	0	0	0	0				
4. SUPPORTED		0	0	0	0	0	0	0	0	0	0	0	0				
5. KEY CIVILIANS		0	0	0	0	0	0	0	0	0	0	0	0				
6. TOTAL PERM. PARTY HQS.		585	357	942	0	1042	526	138	1706	0	134	0	0				
7. TDV STUDENTS (Average)											334	589					
14. PROJECTED STRENGTH DATA AS OF 82-4																	
15. PERMANENT PARTY																	
16. PCS STUDENTS																	
17. SUPPORTED																	
18. KEY CIVILIANS																	
19. ADJUSTMENT (Explain in Remarks)																	
20. TOTAL - PERM. PARTY, RECOM. (Total: Lines 15 thru 19)																	
21. EFFECTIVE FAMILY HOUSING RECOM. (Line 2 DD 1378)																	
22. EFFECTIVE REQUIREMENT - BACHELOR (20 minus 21)																	
23. PROGRAMMING LIMIT (90% of 22)																	
24. TDV STUDENTS																	
25. TRANSMITS (Average)																	
26. TOTAL - TDV REQUIREMENT (Total: Lines 24 + 25)																	
27. TOTAL EFFECTIVE REQUIREMENT (Total: Lines 22 + 26)																	
28. TOTAL PROGRAMMING LIMIT (Total: Lines 23 + 26)																	
29. ADEQUATE ASSETS (Total: Lines 27 + 28)																	
30. MILITARY QUARTERS (Subtotal: Line 31 thru 34)																	
31. EXISTING ADEQUATE																	
32. FUNDED, NOT IN INVENTORY?																	
33. PV PROGRAM*																	
34. SUBSIDY (May be made Adm. based on current contract criteria)																	
35. PRIVATE HOUSING (Including Veterans)																	
36. TOTAL EFFECTIVE DEFICIT (27 minus 35)																	
37. TOTAL PROGRAMMING DEFICIT (28 minus 36)																	
38. PROPOSED PROJECT (S) FYXX																	
39. PROGRAMMING LEVEL - ON BASE (38 + 30)																	
40. PROGRAMMING LEVEL - TOTAL (39 + 38)																	
41. REMARKS																	
*any funded projects should be listed here as well as any projects undergoing Congressional review.																	
DD FORM 1687 1 MAY 72										42. NAME & TITLE SLTM B. GOODBODY, Lt Col, USAF 111 CSG/SV		43. SIGNATURE		44. NAME & LOCATION OF INSTALLATION Podunk AFB, Anywhere		45. DATE	

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

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Figure 2.3. Sample DD Form 1657

<u>Dormitory Scope (Existing Assets) - In # PV(1)</u>						
<u>Bldg #</u>	<u>Type</u> <u>Construction</u>	<u>(2)</u> <u>Yr Built</u>	<u>(3)</u> <u>SF</u>	<u>Condition (4)</u> <u>Code</u>	<u>Rated (5)</u> <u>Capacity</u>	<u>7115</u> <u>Real Property</u> <u>Min Adq</u> <u>New</u> <u>Construction</u>
<p>(1) Show the capacity in terms of number of people it will house.</p> <p>(2) Indicate if building is wood, metal, masonry, etc.</p> <p>(3) Total square feet contained in the building.</p> <p>(4) Indicate if building is condition code 1, 2, or 3.</p> <p>(5) Break the rated capacity of the building down by the way it is carried on the real property records, the number of spaces it would contain if compared to AFR 90-9 minimum adequacy standards, and the number of spaces it would contain if altered to new construction standards.</p>						

Figure 2-4. UPH Supplemental Data Sheet

ADVANCE PREPARATION CHECK LIST		
	YES	NO
1. Obtain a copy of DD Form 1378, Determination of Housing Requirements and Project Composition, from the Military Family Housing Office.		
2. Get current and projected base personnel strengths (the PM) from the Central Base Personnel Office and/or the Base Manpower Management Engineering (MET) Office.		
3. Cross-check the personnel strengths shown on the DD Form 1378 with the personnel strengths shown on the PM. These figures must be the same (a numerical difference of five or ten people will not make a significant difference at a large installation, but it will at a small remote site). If the personnel strengths are not the same, work with Personnel and the Military Family Housing Office to determine the difference. For example, are they using the same fiscal year, etc.		
4. Obtain a listing of all real property records for facilities with category codes of 721-311, 721-312, 721-315, 724-415, and 724-417 from the CE Real Property Office. Check the rated capacity (number of sleeping spaces) and condition codes against the actual facility.		
a. Is the rated capacity correct?		
b. Is the condition code correct?		
c. Does the facility still exist? (Buildings do get torn down--make sure you are not counting nonexistent spaces.)		
d. Is the facility being used for something other than UPH? If so, was an AF Form 123 approved by HQ USAF to change the facility code to another use? If not, is the facility still suitable for UPH use? Would use of this facility take care of your existing housing deficit? (See Chapter Five for further information.)		

Figure 2-5. Advance Check List

**ADVANCE PREPARATION CHECK LIST
(CONTINUED)**

	YES	NO
5. Complete a supplemental data sheet listing each UPH facility by rated capacity, minimum adequacy standards, and new construction standards. Also include construction date and type of construction (masonry, etc.)		

Figure 2-5 (Continued)

CHECK LIST FOR ACTUAL COMPLETION OF THE DD FORM 1657		
	YES	NO
1. Line 1 - Enter the date the form is being filled out. Use day, month, and year.		
2. Lines 2-3, Columns A-H. Fill in personnel data obtained from the DD Form 1378, line 7. This data should agree with data on the PM obtained from the Central Base Personnel Office and the Base Management Engineering Office.		
3. Line 4 - List all personnel of other military services, foreign students, and other military Services personnel for whom you are providing housing support.		
4. Line 5 - List any key civilians housed. Civilians are normally housed only at overseas locations.		
5. Line 6 - Self-explanatory (addition of lines 1-5).		
6. Line 7 - List the average student load over the past year that you were required to house. (This is usually students in courses of less than 20 weeks.)		
7. Lines 8-10 - Fill in real property assets data from the supplemental sheet you previously prepared. Reflect actual rated capacity, not how the facility is being used. (For example, rooms rated as adequate to assign two E-1 - E-4 personnel must show the rated capacity of the room as two. You must do this even if the room is actually assigned to only one person in the grade of E-5 or E-6, for example.)		
8. Line 11 - The number of people housed off-base must reflect the actual number of personnel living in the private community and drawing single Basic Allowance for Quarters. (Check this data against the AF Forms 515, DD Forms 2085, and against actual records maintained in the Accounting and Finance Office.)		

Figure 2-6. DD Form 1657 Check List

**CHECK LIST FOR ACTUAL COMPLETION OF THE DD FORM 1657
(CONTINUED)**

	YES	NO
<p>9. Line 12 - Include any off-base UPH assets under Government control. (This includes leased apartments, etc.) Identify the type and use of these assets in the remarks section of the DD Form 1657.)</p> <p>10. Line 13 - Self-explanatory (addition of lines 8-12).</p> <p>11. Line 14 - Indicate the date of the PM used. List both quarter and year.</p> <p>12. Lines 15-20 - List information from the PM for projected personnel strengths. (Follow instructions contained under projected personnel strengths in the beginning of this chapter to derive grade shred-out.)</p> <p>13. Line 21 - The family housing requirement is derived from line 7 of the DD Form 1378. (NOTE: Total officers on line 21, Column M of the DD Form 1657 must equal line 7, Column A on the DD Form 1378. The total enlisted, line 21, Column S must equal the line 7, Columns B and F of the DD Form 1378.)</p> <p>14. Line 22 - Self-explanatory (line 20 minus 21).</p> <p>15. Line 23 - Self-explanatory. (90 percent of line 22). (NOTE: Programming is restricted to 90 percent of the on-base housing requirement except at overseas remote locations. There 100 percent programming is authorized if no suitable housing exists off-base.)</p> <p>16. Line 24 - Enter the average student load (under 20 weeks duration). The average number of students requiring housing is maintained by Billeting in an average daily occupancy report.</p>		

Figure 2-6 (Continued)

CHECK LIST FOR ACTUAL COMPLETION OF THE DD FORM 1657 (CONTINUED)		
	YES	NO
17. Line 25 - Enter the average number of transients for the past year. Billeting maintains this data on the AF Form 515 report.		
18. Line 26 - Total TDY requirement (total of lines 24 + 25). You may program for 100 percent of the installation transient requirement.		
19. Line 27 - Total Effective Requirement (total of lines 22 + 26).		
20. Line 28 - Total Programming Limit (total of lines 23 + 26).		
21. Line 29 - Adequate Assets (total of lines 30 + 35). This includes all condition codes 1 and 2 assets.		
22. Line 31 - List all condition code 1 assets from the supplemental data sheet previously prepared as backup data for the DD Form 1657. (NOTE: Use facilities which are room-bath-room configured and which meet new construction standards outlined in AFM 86-2, Table 15-1).		
23. Line 32 - List all UPH projects which have been approved and funded by Congress in previous Military Construction Program (MCP) which are not yet ready for occupancy.		
24. Line 33 - List all UPH projects approved by DOD for the previous budget year. (These spaces will be in the review process before Congress at the time you are completing the form.)		
25. Line 34 - List all condition code 2 facilities from the supplemental data sheet. (NOTE: If the facilities are condition code 2, but have been approved for alteration in a previous MCP, do not list them on line 34. Instead,		

Figure 2-6 (Continued)

CHECK LIST FOR ACTUAL COMPLETION OF THE DD FORM 1657
(CONTINUED)

	YES	NO
list them on line 32 or 33 and make a note in the remarks section indicating the fiscal year and scope of the project.)		
26. Line 35 - List all adequate private housing assets available in the local community. This should agree with assets listed on line 11 of the DD Form 1657. If there is a significant difference between the two entries, i.e., number of personnel living off-base with single rate BAQ and the number of community assets counted, explain the difference in the remarks section. This explanation may state that off-base assets are inadequate; that unaccompanied personnel are taking up assets required for military families; you may cite current Air Force policy of housing all E-1 - E-4 personnel on base if the numerical difference is based on members in those grades living off-base; etc.		
27. Line 36 - Self-explanatory (line 27 minus 29).		
28. Line 37 - Self-explanatory (line 28 minus 29).		
29. Line 38 - List the rated capacity (number of spaces) of the proposed project. Be sure to include the fiscal year the project is being programmed in.		
30. Line 39 - Self-explanatory (line 30 + 38).		
31. Line 40 - Self-explanatory (line 29 + 38).		
32. Line 41 - List any clarifying remarks in this section for any of the above line entries.		
33. Line 42 - Normally the installation commander signs this form to ensure the project receives the appropriate levels of review.		

Figure 2-6 (Continued)

CHECK LIST FOR ACTUAL COMPLETION OF THE DD FORM 1657 (CONTINUED)		
	YES	NO
43. Self-explanatory - signature.		
44. Self-explanatory - name and location of the installation.		
45. List the date the DD Form 1657 was prepared.		

Figure 2-6 (Continued)

OTHER PITFALLS TO AVOID

1. Ensure the project is planned only at installations where the DD Form 1657 indicates a valid programming deficiency (line 37). Also ensure the project is being planned for the grades of personnel where the UPH deficiency actually exists, i.e., do not program E-7 - E-9 housing if the deficit is in the E-1 - E-4 column.

2. Ensure existing assets are being shown at their most efficient utilization capacity. Do not list assets in terms of actual use unless this is the most efficient use of the facility. Do not create a deficit by placing rooms adequate to house two E-1 - E-4 personnel in the E-5 - E-6 column since this would result in the rooms being shown as only adequate to house one person instead of two. This is where the supplemental data sheet is useful--there is an audit trail of existing rated capacities!

3. Ensure approved MCP projects have been listed by fiscal year and scope on lines 32 and 33 of the DD Form 1657 and listed in the remarks section of the form. Also be sure that funded MCP upgrade projects have been subtracted from the number of existing substandard spaces.

4. Ensure data reported on the DD Form 1657 agrees with information reported on the DD Form 1391 in terms of both assets and requirements. This will be discussed in depth in Chapter Three.

SUPPORT OF THE CIVIL ENGINEER

After completion of the DD Form 1657, there is valid proof of whether or not a housing deficit exists. If there is a deficit, it is time to begin the long process toward getting a project approved. Although the first step to actually requesting a project is submitting an AF Form 332, completion of that form will not be discussed in this handbook. However, after the AF Form 332 has been submitted and approval given to proceed with a project, the Civil Engineering staff is going to require support in justifying and validating the project on the DD Form 1391. The next chapter will explain what the CE must do, and how SV must interface with them.

CHAPTER THREE

DD FORM 1391 - "SELLING" THE PROJECT

The tool which "sells" an Unaccompanied Personnel Housing (UPH) project is the DD Form 1391, FY__ Military Construction Project Data. The most urgently needed and carefully validated project in the Air Force will not be approved unless you clearly state the need and properly address your requirements! The purpose of this chapter is to list pertinent source documents and design a road map to follow when filling out a DD Form 1391 which will point out some of the areas where mistakes are most commonly made.

SOURCE DOCUMENTS AND PERTINENT REGULATIONS

Guidance for completing the DD Form 1391 for any military construction project is contained in five primary source documents and regulations. These are AFR 86-1, Programming Civil Engineer Resources, AFM 86-2, Standard Facility Requirements, HQ USAF/LEEP annual letter of instruction for preparation of the military construction program, MAJCOM instructions where provided, and the Annual Construction Pricing Guide. Basic information contained in each is as follows:

a. AFR 86-1, Chapter 4, contains overall instructions for completing the DD Form 1391. It also lists general requirements for supporting documents such as line drawings, environmental impact statements, detail deficiency sheets, etc. This chapter also briefly addresses the economic analysis which must be done before a modernization project can be justified for a UPH project. A specific example of a completed economic analysis is contained in Chapter Four of this handbook.

b. AFM 86-2 is the second basic source document. Chapter 1 provides general guidance for developing facility requirements and criteria and gives instructions on how to revise existing criteria or initiate new criteria. This regulation also lists offices of primary responsibility for developing requirements for various types of facilities. Chapter 15 gives basic information needed for programming an unaccompanied personnel housing project. This chapter addresses adequacy standards, support areas, and construction space criteria.

c. An important document to consult before beginning to fill out the DD Form 1391 is the HQ USAF annual letter of instruction for preparation of the Military Construction Program. This annual programming letter contains the latest guidance and instructions for developing UPH projects and includes any changes which may have been made to existing procedures during the past programming year. NOTE: GUIDANCE IN THIS LETTER SUPERSEDES ANY EARLIER CONFLICTING GUIDANCE GIVEN IN AFM 86-2, AFR 86-1, OR PREVIOUS POLICY LETTERS. Guidance issued by your Major Command will point out any changes.

d. Each Major Command will normally issue guidance on development and submission of Military Construction Program (MCP) projects also. This document will provide guidance on any unique command requirements and may give further clarification on certain issues.

e. One final document to consult is the annual Pricing Guide. The Pricing Guide provides current authorized construction costs per square foot and gives area cost factors so programming costs can be accurately estimated.

GENERAL INSTRUCTIONS

Although AFM 86-1 contains basic instructions for completing the DD Form 1391, the guidance is of a general nature and does not point out some of the common mistakes made in Unaccompanied Personnel Housing (UPH) projects. Listed below are step-by-step instructions to help complete the form and avoid some of the commonly-made mistakes.

a. Blocks 1 through 8:

1 COMPONENT AIR FORCE	FY 1985 MILITARY CONSTRUCTION PROJECT DATA		2 DATE
3 INSTALLATION AND LOCATION BOGUS AFB, AL		4 PROJECT TITLE UNACCOMPANIED ENLISTED PERSONNEL HOUSING	
5 PROGRAM ELEMENT MAJCOM Element	6 CATEGORY CODE 721-312	7. PROJECT NUMBER CECORS #	8 PROJECT COST (\$000) \$7,800

Figure 3-1. DD Form 1341, Blocks 1-8

(1) Block 1, COMPONENT. List Air Force if the project is to be submitted in the Air Force Program Objective Memorandum (POM). The fiscal year is the current programming year. Be sure to use the four numerical position designator, i.e., 1985.

(2) Block 2, DATE. Leave blank.

(3) Block 3, INSTALLATION AND LOCATION. Refers to the installation where the project will be constructed. Spell out the official name of the installation in full. (Abbreviations such as BABF could be interpreted as one of many bases within the Air Force inventory which begin with the letter B.)

(4) Block 4, PROJECT TITLE. Specify the exact use of the facility, whether for officers or enlisted (or in rare cases mixed rank use) and whether it is for transient or permanent party use. Approved titles for this block are:

(a) Unaccompanied Enlisted Personnel Housing (UEPH) - facility for permanent party enlisted personnel.

(b) Unaccompanied Officer Personnel Housing (UOPH) - facility to house permanent party officers.

(c) Visiting Airmen Quarters (VAQ) - facility to house transient enlisted personnel.

(d) Visiting Officer Quarters (VOQ) - facility to house transient officer personnel.

(e) Unaccompanied Personnel Housing (UPH) - facility to house both enlisted and officer personnel in the same facility due to unique conditions. (This is usually at locations such as a small remote site where it is not economical to build separate facilities due to size, etc.)

(5) Block 5, PROGRAM ELEMENT. Enter the appropriate cost code element from AFM 300-4. This identifies which MAJCOM funds are being used. If a project is in absolute support of a system or aircraft, use the program element of that system or aircraft. For upgrading, modernization, and deficiencies not directly tied to a separate mission, use the Base Operating Support (BOS) program element.

(6) Block 6, CATEGORY CODE. This must agree with the project title listed in Block 4. Category codes are contained in AFM 300-4. For projects involving two or more

category codes, use the category code for the facility having the largest scope for each involved category code. Enter only one category code in Block 6. Codes for UPH facilities are:

1. Unaccompanied Enlisted Personnel Housing (UEPH) - 721-315.
2. Unaccompanied Officer Personnel Housing (UOPH) - 724-415.
3. Visiting Airmen Quarters (VAQ) - 721-315.
4. Visiting Officer Quarters (VOQ) - 724-417.
5. Unaccompanied Personnel Housing (UPH) - Will be a combined project either in terms of use or rank. For example, it may be a combination officer and enlisted facility or a combination transient and permanent party project. List the category code having the largest scope.

(7) Block 7, PROJECT NUMBER. Enter 12-digit CECORS project number for all projects.

(8) Block 8, PROJECT COST. This is the bottom line cost estimate computed in Item 9.

(9) Block 9, COST ESTIMATE. Provides the basic cost estimate for the facility. In this block, list the type of facility and any required supporting facilities such as electrical and utility support. Additional storage space can be included for dormitories as support space if the requirement has been verified under guidance for category code item 442-769, Housing Supply/Storage Facility (AFM 86-2, 15-5). The amount of storage space must be consistent with the standard facility design being used and must be broken out as a separate line item under 9. Administrative space may also be included as a separate line item. Contingency and Supervision, Inspection, and Overhead (SIOH) estimates are also included in this block. Basic points to remember are as follows:

(a) The first entry in Block 9 will be the primary facility. It must name the project and must be the same as Block 4, Project Title. It must also agree with Block 6, Category Code. In parenthesis next to the project title list the rated capacity of the facility in terms of number of persons, i.e., 212 PN. (Figure 3-2 on the following page provides an example of how this should be completed.)

1 COMPONENT AIR FORCE		FY 1986 MILITARY CONSTRUCTION PROJECT DATA		2 DATE	
3 INSTALLATION AND LOCATION BOGUS AFB, AL			4 PROJECT TITLE UNACCOMPANIED ENLISTED PERSONNEL HOUSING		
5 PROGRAM ELEMENT MAJCOM Element	6 CATEGORY CODE 721-312	7 PROJECT NUMBER CECORS #	8 PROJECT COST (\$000) \$7,800		
9 COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
Unaccompanied Enlisted Personnel Housing (212 PN) *					
*Rated capacity upon completion					

Figure 3-2. DD Form 1391, Block 9

(b) The U/M (unit of measure) entry for UPH facilities must be S/F (square feet). Quantity will be a mathematical computation of number of persons multiplied times the number of square feet authorized for their grade. Unit costs are provided in the Annual Construction Pricing Guide which lists the statutory limit per square foot for enlisted and officer facilities. Total cost is the unit cost multiplied times the number of square feet authorized to be built. (NOTE: Space authorizations by grade are included in AFM 86-2, Table 15-1.)

9 COST ESTIMATES				
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)
Unaccompanied Enlisted Personnel Housing (212 PN)	SF	45,280	60.0	2,416
Unit of Measure - Square Feet				
Quantity - # PN x authorized space by grade (212 PN x 190 SF = 40,280 SF)				
Cost - SF x Unit Cost/SF x area cost factor (40,280 x \$60 = \$2.416m x 1.0 area Cost Factor = \$2.416m)				

Figure 3-3. Computing Quantity and Space

(c) Supporting facilities must list those items of construction which are directly related to and are required to support the primary item being constructed. In most cases, supporting items are those which are five feet beyond the building or facility limits. Typical supporting items, their order, and unit of measure are shown in Figure 3-4.

9 COST ESTIMATES				
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)
(Primary Facilities will come first)				
Supporting Facilities				
Electric	LF			()
Connect to base EMCS	LS			()
Transformer	KVA			()
Sub-Station	KVA			()
Water	LF			()
Sanitary Sewer	LF			()
Gas	LF			()
Heat	MBH			()
Storm Drainage	LF			()
Demolition (3 Bldgs)	SF			()
Relocation (3 Bldgs)	SF			()
Site Improvement	LS			()
Roads, Parking & Walks	SY			()
Fencing	LF			()
Exterior Security Lighting	EA			()
Emergency Power	KW			()
Communication Support	LS			()
Exterior Fire Protection	LS			()
Cathodic Protection	LS			()
Solar Application	LS			()
Systems Oriented O&M Manuals	LS			()

Figure 3-4. DD Form 1391, Typical Support Items

(10) Block 10, DESCRIPTION OF PROPOSED CONSTRUCTION. Must contain a very clear, concise statement of what is to be built. The entry must state if the project is new construction or if it is alteration of an existing facility. All items to be included must be listed. In this block the rated capacity of the facility must be expressed in terms of number of persons broken down by grade mix after project completion, for example 212 E-1 - E-4.

10 DESCRIPTION OF PROPOSED CONSTRUCTION

10. DESCRIPTION OF PROPOSED CONSTRUCTION. Convert to semiprivate/private baths; replace existing central ventilation with fancoil system, extend chilled water lines from existing service; install ceiling insulation; replace window sash and add solar shield storm windows; replace doors and lockers; correct OSH deficiencies; install carpeting in halls and lounges; convert central latrines to one storage area and one living quarters in each floor; reseal 400 SY parking area, replace transformer, connect to energy monitoring and control system; and landscape. Includes bedrooms, baths closets, lounges, centralized storage laundry, support space, and utilities. Grade Mix: 528 E1-4, 60 E5-6; 28 E-7-9. Air Conditioning - 60 Tons.

Figure 3-5. DD Form 1391, Description of Proposed Construction

IMPORTANT: THE GRADE MIX OF THE PROPOSED PROJECT MUST AGREE WITH THE PROGRAMMING DEFICIT SHOWN ON LINE 37 (Column S for enlisted and Column M for officers) of the DD Form 1657. The numbers must agree both in grade mix and overall numbers. In effect, rooms cannot be built for E-7 - E-9 personnel if the existing deficit is for E-1 - E-4 personnel. Also, 250 spaces cannot be built, for example, if the existing deficit is only 150 spaces.

(11) Block 11, REQUIREMENT. Addresses the on-base housing requirement and assets, type project, requirement for the facility, current situation, and the impact if the project is not funded. Things to consider for each are as follows:

(a) On-Base Requirement and Assets. The number of personnel who require on-base housing and the number of existing adequate and substandard spaces comes from the DD Form 1657, Determination of Bachelor Housing Requirements. The on-base requirement is derived by subtracting the number of unaccompanied personnel in private housing from the total programming limit.

Total programming limit (line 28, Col S [enlisted])
 - Number in private housing (line 36, Col S [enlisted])
 on-base requirement

The number of adequate assets must reflect all condition code 1 assets and is taken from lines 31, 32, and 33 (Column S for enlisted, Column M for officer) of the DD Form 1657. In parentheses, break out adequate spaces by existing adequate assets plus any approved projects in previous FYs. Substandard assets must list all condition code 2 and 3 assets. This information is obtained from lines 10 and 34 of the DD Form 1657. In parentheses, break out the assets by code 2 and 3. This is important so that it will not appear that you are overprogramming. Condition code 3 assets are not counted against your total programming limit.

10 DESCRIPTION OF PROPOSED CONSTRUCTION

10. DESCRIPTION OF PROPOSED CONSTRUCTION. Convert to semiprivate/private baths; replace existing central ventilation with fancoil system, extend chilled water lines from existing service; install ceiling insulation; replace window sash and add solar shield storm windows; replace doors and lockers, correct OSH deficiencies; install carpeting in halls and lounges; convert central latrines to one storage area and one living quarters in each floor; reseal 400 SY parking area, replace transformer, connect to energy monitoring and control system; and landscape. Includes bedrooms, baths, closets, lounges, centralized storage laundry, support space, and utilities. Grade Mix: 528 E1-4; 60 E5-6; 28 E7-9. Air Conditioning - 60 Tons.

11. ON BASE REQUIREMENT: 300 PN ADEQUATE: 100
 SUBSTANDARD: 150 PN (50 Code 2 spaces, 100 code 3)

Figure 3-6. DD Form 1391, On Base Requirement

IMPORTANT: THE NUMBER OF ADEQUATE AND SUBSTANDARD ASSETS ON THE FRONT OF THE DD FORM 1391 MUST AGREE WITH THE NUMBER OF ASSETS LISTED ON THE DD FORM 1657 AND MUST BE THE SAME AS THE NUMBER OF ASSETS LISTED ON THE DD FORM 1391c, DETAIL DATA DEFICIENCY SHEETS.

(b) Project - List what type facility is to be built. This entry must agree with Block 4, Project Title, and Block 6, Category Code.

(c) Requirement - This entry must clearly and concisely state why the facility is required. It should be factual and in easily-understood language. Avoid use of Air Force jargon, acronyms, highly-technical terms, and reference to Air Force publications. Remember that lay people in the Office of the Secretary of Defense and Congress will be reviewing and approving these documents so write for easy understanding. This information should be prepared principally by the proposed facility's intended user (Services in this case).

(d) Current Situation - Provide a detailed description in this block of existing conditions for housing personnel on the installation. Indicate whether the construction is a replacement project for existing facilities, an alteration of an existing facility, or new construction to fill a deficit. Specify the condition of existing facilities to be replaced or upgraded, or indicate if there is lack of facilities to house the current on-base requirement. If there is a deficit of spaces, state where personnel are currently being housed (such as stating personnel are being doubled up in on-base quarters, living in inadequate housing in the private community, or that the deficit will result from a new mission whose members are not yet assigned). Give the date of construction of any facility which is being replaced or upgraded. Also give the type of construction (masonry, etc.) and general condition of the facility. In this block also state which phase of the UPH programming plan the project is in. (Each base is required to have a Five-Year Unaccompanied Personnel Housing Improvement Program.) You must also state what percent of personnel will be adequately housed on base upon completion of the proposed project. Derive this percentage by dividing the number of existing assets after project completion by the on-base UPH requirement.

$$\frac{\text{Assets after project completion}}{\text{On-base requirements}} = \% \text{ adequately housed}$$

IMPORTANT: BE SURE THIS DATA AGREES WITH INFORMATION SUBMITTED IN ANY PREVIOUS YEAR'S MCP PROJECTS. IF THERE IS A CHANGE IN NUMBER OF ASSETS OR ON-BASE HOUSING REQUIREMENT, MAKE AN ENTRY ON THE DD FORM 1391c DETAILING REASONS FOR THE CHANGE. For example, an increase in the on-base housing requirement may be due to a new mission with increased

personnel or a change in assets may be due to demolition of some previously existing code 3 assets, etc.

(e) Impact if not Funded - Provide a concise, cogent statement of what will happen if this project is not approved. Specify quality of life issues such as morale and welfare, and factual issues such as increased BAQ or TDY costs which will be incurred if the project is not funded. An example of a completed DD Form 1391 is contained in Figure 3-7.

1 COMPONENT AIR FORCE		FY 19__ MILITARY CONSTRUCTION PROJECT DATA			2 DATE	
3 INSTALLATION AND LOCATION BOGUS AFB, AL			4. PROJECT TITLE UNACCOMPANIED ENLISTED PERSONNEL HOUSING			
5 PROGRAM ELEMENT 0.00.00	6 CATEGORY CODE 721-312	7. PROJECT NUMBER	8 PROJECT COST (\$000) 7,800			
9. COST ESTIMATES						
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)		
UNACCOMPANIED ENLISTED PERSONNEL HOUSING (393 PN)	SF	114,000	53.00	6,042		
SUPPORTING FACILITIES	LS			906		
ELECTRIC	LS			(130)		
UTILITIES	LS			(259)		
SITE IMPROVEMENT	LS			(184)		
SPECIAL FOUNDATION	LS			(210)		
ROADS, PARKING, AND WALKS	LS			(101)		
COMMUNICATIONS SUPPORT	LS			(22)		
SUBTOTAL				6,948		
CONTINGENCY (5%)				347		
TOTAL CONTRACT COST				7,295		
SUPERVISION, INSPECTION AND OVERHEAD (6.5%)				474		
TOTAL REQUEST				7,769		
TOTAL REQUEST (ROUNDED)				7,800		
10 DESCRIPTION OF PROPOSED CONSTRUCTION Reinforced concrete frame building, concrete floors and roof, concrete foundation, masonry walls, fire protection system, utilities and necessary support. Includes bedrooms, baths, closets, lounges, centralized storage, laundry and support space.						
11. ON BASE REQ: 605 PN ADEQUATE: 0 SUBSTANDARD: 653 PN (All Code 3) PROJECT: Construct three new unaccompanied enlisted personnel housing facilities. REQUIREMENT: A major Air Force objective is to provide unaccompanied enlisted personnel with housing that will be conducive to their proper rest, relaxation, and personnel well-being. Properly designed and furnished quarters which provide some degree of individual privacy are essential to the successful accomplishment of the increasingly complicated and important jobs these personnel must perform. The lack of such quarters is an irritant to these personnel and a known contributor to low reenlistment rates. The Air Force should remove this irritant to maintain an effective force of experienced airmen. CURRENT SITUATION: The facilities to be replaced are relocatable buildings built in 1953 that have deteriorated to the point where they can no longer be upgraded. They will be disposed of upon completion of this project. This project is phase one of a three-phase program which will eventually provide upgraded quarters to meet the full programming need for the base. When this project is completed, 65% of that goal will be reached. IMPACT IF NOT PROVIDED: Substandard living conditions will persist at the base and the morale, productivity, and career satisfaction of the enlisted force will continue to be degraded.						

FIGURE 3-7. SAMPLE DD Form 1391

INSTRUCTIONS FOR DD FORM 1391c -
EXISTING FACILITIES/DEFICIENCY DETAIL DATA SHEET

The backup data to support the DD Form 1391 is contained on the DD Form 1391c and is essential to project justification. It will be used to document all the individual facilities with similar condition codes associated with, or affected by, the proposed project. For UPH projects, include a requirements computation and a facility listing. The sheet must show all facilities having the same or similar category codes associated with, or affected by, the proposed project.

a. Computing Requirements. The requirements/assets data listed on the DD Form 1391c must agree with the DD Form 1657 requirements calculations and the data listed in Block 11 on the DD Form 1391. Compute as listed below:

(1) Item a (TOTAL REQUIREMENT): This is the total number of people who require on-base housing. Compute in accordance with Block 11a, page 33 of this handbook.

(2) Item b (EXISTING SUBSTANDARD): Enter the total number of existing facilities which have the same designation as the requested project but are Condition Code 3 or Condition Code 2. Do not enter any unusable space.

(3) Item c (EXISTING ADEQUATE): Enter the number of adequate assets designated Condition Code 1.

(4) Item d (FUNDED NOT IN INVENTORY): Enter assets which, under currently approved programs are scheduled for, or are under construction or acquisition, but are not yet included in the local inventory.

(5) Item e (ADEQUATE ASSETS): Enter the sum of (c + d).

(6) Item f (INCLUDED IN FY XX PROGRAM): Enter the scope of a program sent to Congress in a preceeding program not yet enacted into law.

(7) Item g (DEFICIENCY): This scope is the remainder after subtracting Items e and f from the total requirement, Item a (a - minus - e - minus - f). If a deficiency will remain after completing the proposed project, explain on the DD Form 1391c why it is not included in this project and when it is scheduled to be programmed.

b. Facility Listing. Ensure that all individual building entries add up to the entries in the Requirements/Assets block. Show the category code, nomenclature, building number, scope currently used, the total building scope, the year built, condition code, type construction, and disposition/remarks.

(1) The type of construction should indicate wood, metal, or masonry.

(2) For substandard, show the total space to be disposed of by this project in the remarks column. Show the totals for condition codes 2 and 3 space. Do not list any existing space or buildings on this form that were previously committed for disposal by prior MCP projects.

(3) Break the listing down by existing adequate, substandard, and spaces included in FY XX. If a project is an alteration, do not also list the facility under existing assets since this will result in double counting of the spaces.

An example of a completed DD Form 1391c, Existing Facilities/Deficiency Detail Data Sheet, is contained in Figure 3-8.

1. COMPONENT AIR FORCE		FY 19 ⁸⁶ MILITARY CONSTRUCTION PROJECT DATA		2. DATE	
3. INSTALLATION AND LOCATION BOGUS AFB, AL					
4. PROJECT TITLE UNACCOMPANIED ENLISTED PERSONNEL HOUSING				5. PROJECT NUMBER	

EXISTING FACILITIES/DEFICIENCY DETAIL DATA SHEET			Scope (PN)
SCOPE OF FY86 REQUEST: 393 PN			REQUIREMENTS/ASSETS DATA*
Requirements Computation			
Mission: Tactical fighter squadron with F-4E aircraft; two communications squadron detachments.			
Requirement: Projected enlisted strength:			
Permanent Party	=	593	a. Total Requirement
Transient	=	71	b. Existing Substandard (Cannot be upgraded) (Can be upgraded)
Programable Requirement (90% of Perm Party + 100% of Transient)	=	605	c. Existing Adequate
			d. Funded, Not in Inventory
			e. Adequate Assets (c+d)
			f. Included in FY85 Program
			g. Deficiency (a-e-f)
*Requirements/Assets data combine those for 721-312, UEPH; and 721-315, VAQ.			

CAT CODE	NOMENCLATURE/BLDG NO.	SCOPE (PN)	COND/TYPE		DISPOSITION/REMARKS
			YR/CODE/CONST		
b. Existing Substandard: 653 PN					
721-315	VAQ/413	2	53/3/wood frame		Retain until replacement facilities are constructed.
721-315	VAQ/448	16	53/3/ "		
721-315	VAQ/450	16	53/3/ "		
721-312	UEPH/454	5	67/3/ "		
721-312	UEPH/458	32	53/3/ "		
721-315	VAQ/459	16	53/3/Wood frame		
721-315	VAR/463	26	53/3/ "		
721-315	VAQ/500	6	53/3/ "		-- (See Note below)

FIGURE 3-8. DD Form 1391, Sample Existing Facilities/Deficiency Detail Data Sheet

1. COMPONENT AIR FORCE		FY 1986 MILITARY CONSTRUCTION PROJECT DATA		2. DATE	
3. INSTALLATION AND LOCATION BOGUS AFB, AL					
4. PROJECT TITLE UNACCOMPANIED ENLISTED PERSONNEL HOUSING				5. PROJECT NUMBER	

CAT CODE	NOMENCLATURE/BLDG NO.	SCOPE (PN)	COND/TYPE YEAR/CODE/CONST	REMARKS	
721-315	VAQ/435	1	75/3/steel relocatable	(See Note Below)	
721-312	UEPH/3427	48	70/3/steel relocatable	Retain for contingency use.	
721-312	UEPH/3428	24	70/3/steel relocatable		
721-315	VAQ/3428	24	70/3/steel relocatable		
721-312	UEPH/3429	48	70/3/steel relocatable		
721-312	UEPH/3430	98	81/3/steel relocatable		
721-312	UEPH/3433	48	70/3/steel relocatable		
721-312	UEPH/3434	48	70/3/steel relocatable		
721-312	UEPH/3435	48	70/3/steel relocatable		
721-312	UEPH/3436	98	81/3/steel relocatable		
721-312	UEPH/3600	48	82/3/steel relocatable		
Total Substandard		653 PN			
f. Included in FY85 Program: 124 PN					
721-310	UEPH/VAQ	124	Construct by FY85 MCP (100 E5-E6, 24 E7-E9)		
b. Deficiency: 481 PN					
721-310	UEPH/VAQ	393	Construct by this FY86 request. (240 E2-E4, 126 E5-E6, 27 E7-E9)		
721-310	UEPH/VAQ	88	Remaining deficiency after FY86 MCP. No Program. (39 E2-E4, 33 E5-E6, 16 E7-E9)		
Total Deficiency		481			

NOTE: Current HAP-LEE(AR)7115 report erroneously shows Bldgs 435 and 500 as Cond Code 2. Should be Cond Code 3. Next report will be corrected.

FIGURE 3-8 (Continued)

COMPLETION CHECK LIST		
	YES	NO
1. Have you read applicable portions of the following regulations:		
a. AFR 86-1, Chapter 4?		
b. AFM 86-2, Chapters 1, 2, and 15?		
c. HQ USAF/LEEP Annual Military Construction Programming Guidance?		
d. Pricing Guide?		
2. Have you obtained a copy of the most current DD Form 1657, Determination of Bachelor Housing Requirements, from Services?		
3. Is <u>Air Force</u> listed in block 1, Component?		
4. Is the installation name spelled out in full?		
5. Is the exact use of the facility listed in Item 4, Project Title, as either:		
a. Unaccompanied Enlisted Personnel Housing?		
b. Unaccompanied Officer Personnel Housing?		
c. Visiting Airmen Quarters?		
d. Visiting Officer Quarters?		
e. Unaccompanied Personnel Housing?		
6. Is the Major Command Program Element listed in Block 5?		

Figure 3-9. DD Form 1391, Checklist Completion

CHECK LIST		
	YES	NO
<p>7. Is one of the following category codes listed in Block 6:</p> <ul style="list-style-type: none"> a. VAQ - 721-315? b. VOQ - 724-417? c. UEPH - 721-311 or 721-312? d. UOPH - 724-415? e. UEPH (Recruits) - 721-311? <p>Does this category code agree with the project title listed in line 4?</p> <p>8. Is the cost estimate from Item 9 listed in Block 8 in rounded numbers?</p> <p>9. Is the type facility specified? Does it agree with Items 4 and 6?</p> <ul style="list-style-type: none"> a. Is the rated capacity of the facility listed in terms of numbers of persons? b. Is the U/M expressed in square feet? c. Is the total quantity equal to the rated capacity (number of persons) times the square feet (SF authorized by grade personnel being built for)? d. Does the unit cost comply with the statutory limits specified in the Pricing Guide? Has the area cost factor been applied? e. Are supporting facilities such as storage space or dining halls listed as separate line items? f. Are items required to support the primary construction such as electrical and utility support listed? 		

Figure 3-9 (Continued)

CHECK LIST		
	YES	NO
g. Were contingency and SIOH costs included?		
10. Does the description of proposed construction in Item 10 state if the project is new or alteration?		
a. Are all items to be included listed such as storerooms, dining halls, etc?		
b. Is the rated capacity expressed in terms of number of persons broken down by grade mix?		
11. Does data contained in Item 11 agree with DD Form 1657 data?		
a. Does the on-base requirement equate to the total programming limit (line 28, Column S for enlisted, Column O for officers) minus the number in adequate private housing (line 36, Column S for enlisted, Column O for officers) of the DD Form 1657?		
b. Does the number of adequate assets equal existing code 1 assets plus any approved MCP projects? Does the total number equate to the sum of lines 31, 32, and 33 (Column S for enlisted, Column O for officers) of the DD Form 1657?		
c. Does the number of substandard assets agree with lines 10 and 34 of the DD Form 1657? Is a breakout provided by code 2 and code 3 assets?		
d. Does the sum of the total adequate and inadequate assets agree with the sum of assets listed on the DD Form 1391c, Detail Data Deficiency Sheets, and with the sum of assets on the DD Form 1657?		

Figure 3-9 (Continued)

CHECK LIST		
	YES	NO
12. Is the type of facility being built listed? Does this entry agree with Items 4 and 6?		
13. Is the requirement clearly and concisely stated? Was use of jargon, acronyms, and highly-technical terms avoided?		
14. Has a detailed description of the current situation been outlined as follows:		
a. Does the entry reflect if this is a replacement project, alteration project, or new construction project to fill an existing deficit?		
b. Is the year stated in which the facilities being altered or replaced were built?		
c. Is the phase of the UPH programming plan specified?		
d. Is the percent of personnel who will be adequately housed upon completion of the project listed?		
e. Does data listed in this block agree with information submitted in previous projects in terms of assets and on-base housing requirement? (Cross-check submittal against previous year's DD Forms 1391.) If there is a change, has an explanation been given for an increase or decrease in assets or on-base housing requirement?		
15. Has a concise statement been outlined showing the impact if the project is not funded? Does the statement include both quality of life (morale) type issues and factual data (increased BAQ or TDY costs, etc.)?		

Figure 3-9 (Continued)

CHECK LIST		
	YES	NO
DD FORM 1391-c CONTINUATION SHEET		
1. Is the list of existing assets broken down by category code, facility number, and rated capacity (number of persons and square feet)?		
2. Is the type construction and year built listed for each facility?		
3. Does the total of the assets listed on the front of the DD Form 1391 and with the assets listed on the DD Form 1391c agree with the assets listed on the DD Form 1657?		
4. Have prior year approved construction or alteration projects been listed? Have funded MCP alteration projects been subtracted from the number of substandard spaces listed.		
5. Have disposition/remarks entries been made for each facility?		
6. Does the requirement computation agree with Item 11 of the DD Form 1391 and the DD Form 1657, line 37 (Column S for enlisted and Column M for officers)?		

Figure 3-9 (Continued)

CHAPTER FOUR

POTPOURRI

The three preceeding chapters contain the basic information necessary to get an Unaccompanied Personnel Housing (UPH) project validated and developed. This chapter provides a miscellaneous collection of other information which may be helpful in understanding the overall UPH programming process.

AF FORM 123 ACTIONS

As discussed in Chapter Three, a physical inventory of the existing UPH assets listed in the Civil Engineering Real Property records may reveal that a discrepancy exists between the use of the facility and the rated capacity of the facility. In these instances, an AF Form 123, Request for Changed Use of Real Property, must be submitted to align the listed and actual use or capacity of the facility. The required actions and impact of each are as follows:

a. Conversion Action. A physical inventory of existing facilities with UPH facility designators may reveal that some facilities are no longer being used as UPH assets. Instead, the buildings have been temporarily converted to another use such as an administrative facility. A determination must be made by Civil Engineering and Services collectively as to whether or not the facility is still suitable for use as UPH. If it is suitable or can be economically upgraded to meet housing adequacy standards, it must remain a UPH asset if needed to house unaccompanied personnel instead of programming new construction. Thus, action must be taken to reclaim the space for use as UPH if a housing deficit exists. In this instance, the principle user (SV) would submit a request to the base Facilities Board stating the size of the UPH deficit and requesting the facility be returned for use as UPH. NOTE: All facilities with UPH category codes must be included in a listing of base assets when a DD Form 1657 is completed. New construction for UPH will not be approved if there are existing UPH facilities being used for other purposes unless thorough justification is provided to allow the category code of the building to be changed to another use. In this case, the base Facilities Board would decide what the facility is to be used for, and CE would submit an AF Form 123 to HQ USAF/LEER through their Major Command requesting a changed category code.

If the facility is not suitable for use as UPH in its current condition and cannot be economically upgraded, the Civil Engineer must also submit an AF Form 123 requesting permanent conversion of the facility to another use. In this way, another facility designation code will be assigned, and the assets will be removed from the UPH list of assets (after approval of the conversion action by HQ USAF/LEER). Thus, replacement UPH can be programmed if a housing deficit exists.

b. Re-rating Action. The rated capacity of any UPH facility which has undergone a major alteration project should be closely checked. In some cases, the rated capacity of the facility (number of sleeping spaces available) may have been downgraded by as much as one-third due to structural modifications. However, the real property records may still contain the original rated capacity. Again, after the Facilities Board action, Civil Engineering must submit AF Form 123 to HQ USAF/LEER with a complete justification for re-rating the facility. Complete instructions and details for completing and submitting an AF Form 123 are contained in AFR 87-2, Use of Real Property Facilities.

c. Although an AF Form 123 is not required to change the condition code of an existing UPH facility, it is important that the correct condition codes be assigned to each facility. This is because the condition code of a facility determines whether it can be replaced or modernized. For example, if a UPH facility is listed as condition code 1, no replacement or upgrade project can be programmed. However, if a physical inventory of the facility shows that due to age, changed standards, or any other reason the facility no longer meets adequacy standards, the code should be changed to reflect the actual condition of the building. This can be done locally by the CE Real Property section upon receipt of adequate justification from the user for the change.

EFFICIENT UTILIZATION OF OFFICER AND ENLISTED ASSETS

Chapter Three states that the Billeting Officer is responsible for ensuring the most effective utilization of all UPH assets to prevent overpayment of BAQ or per diem. This utilization of assets must also be considered when determining the requirement for building a new UPH facility. Thus, when determining the requirement for a new facility, all UPH assets on the installation must be considered. For example, if there is an excess of unaccompanied officer quarters (UOPH) and a deficit of unaccompanied enlisted personnel housing (UEPH), Services must determine whether the UOPH assets can be converted for UEPH assets. A construction

project submitted to HQ USAF which has an accompanying DD Form 1657 reflecting an overage of any type quarters which have not been converted for use to fill an existing deficit will not be approved unless detailed justification is provided as to why the assets cannot fill the deficit. NOTE: Changing the use of a facility from UOPH to UEPH (or vice versa) does not require submittal of an AF Form 123. However, to permanently change the rated capacity of the facility, an AF Form 123 must be submitted through the Major Command to HQ USAF/LEER.

ECONOMIC ANALYSIS FOR ALTERATION PROJECTS

The Office of the Secretary of Defense requires that an economic analysis be submitted with all UPH alteration projects. The analysis must prove that it is more economical to alter the existing facility than to construct a new one. The current limitations established by OSD state that alteration costs cannot exceed 90 percent of the cost of new construction for the alteration to be considered more economical. Detailed instructions for completing an economic analysis are contained in AFR 178-1, Chapter 4. An example of a completed economic analysis is contained in Figure 4-1.

UPH DESIGN GUIDES

HQ USAF/LEEC has developed comprehensive design guidance for both unaccompanied enlisted personnel housing and unaccompanied officer personnel housing. These guides contain the most current information on all aspects of architectural and structural requirements. Also included are the most up-to-date definitive drawings of the approved design for new facilities. Each Civil Engineering and Services officer should have a copy of these guides before beginning to plan a new project. The guides may be requested from your major command.

CONCLUSION

In conclusion, this handbook has tried to provide all the basic information that might be needed by either a Civil Engineer or Services officer responsible for developing and justifying a unaccompanied personnel housing project. Hopefully, the guidance will make the programming process a little clearer.

SAMPLE ECONOMIC ANALYSIS

NEW UNACCOMPANIED PERSONNEL HOUSING VS UPGRADE OF EXISTING

Assumptions used for sample calculations:

	<u>New Construction</u>	<u>Upgrade Existing</u>
Number of Buildings	3	3
Total Square Feet (SF)	46,250	51,000
Number of PN	185	185
Project Cost	\$2,600,000	\$1,500,000
Annual Maintenance Costs	\$ 50,000	\$ 100,000
Repair Costs		
5th Year	\$ 50,000	\$ 200,000
10th Year	\$ 100,000	\$ 200,000
15th Year	\$ 100,000	\$ 0
20th Year	\$ 200,000	N/A

NOTE: Detailed calculations for actual projects must be included as part of Item 10 of the following sample. Refer to the Annual Construction Pricing Guide for the appropriate costs.

Figure 4-1. Sample Economic Analysis

8. Uniform Annual Cost:

a. Without Terminal Value $\$3,053,200 - 9.525 = \$320,546$

b. With Terminal Value N/A

9. Discounted Total Cost Without Terminal Value $\$3,053,200$

a. Less Discounted Terminal Value 0

b. Net Discounted Total Cost $\$3,053,200$

10. Source/Derivation of Cost Estimates:

(Use this section to provide detailed backup calculations)

11. Name and title of Principal Action Officer:

John Doe, Chief Engineer

Date: 27 May 1984

Figure 4-1 Continued

ECONOMIC ANALYSIS - ALTERNATE #1

1. Base and Command: Blue AFB, SB (AFXX)
2. Date of Submission: 1 June 1984
3. Project Title: Unaccompanied Enlisted Personnel Housing.
4. Description of Project Objective: To provide adequate living quarters for unaccompanied enlisted personnel.
5. Alternative: #1 - Construct new facilities
6. Economic Life: 25 years
7. Program/Project Costs:

<u>YEAR</u>	<u>INVEST. COST (\$000)</u>	<u>RECURRING COSTS (\$000)</u>	<u>ANNUAL COST (\$000)</u>	<u>DISCOUNT FACTOR</u>	<u>DISCOUNTED ANNUAL COST (\$000)</u>
1	2,600	0	2,600	0.954	2,480.0
2		50	50	.867	43.3
3		50	50	.788	39.4
4		50	50	.717	35.8
5		100	100	.652	65.2
6		50	50	.592	29.6
7		50	50	.538	26.9
8		50	50	.489	24.5
9		50	50	.445	22.2
10		150	150	.405	60.7
11		50	50	.368	18.4
12		50	50	.334	16.7
13		50	50	.304	15.2
14		50	50	.276	13.8
15		150	150	.251	37.6
16		50	50	.228	11.4
17		50	50	.208	10.4
18		50	50	.189	9.4
19		50	50	.172	8.6
20		350	350	.156	54.6
21		50	50	.142	7.1
22		50	50	.129	6.4
23		50	50	.117	5.9
24		50	50	.107	5.3
25		50	50	.097	4.8
TOTALS				9.525	3,053.2

Figure 4-1 Continued

ECONOMIC ANALYSIS - ALTERNATE #2

1. Base and Command: Blue AFB, SB (AFXX)
2. Date of Submission: 1 June 1984
3. Project Title: Alter Unaccompanied Enlisted Personnel Housing
4. Description of Project Objective: To provide adequate living quarters for unaccompanied enlisted personnel.
5. Alternative: #2 - Alter Existing Facilities
6. Economic Life: 15 years
7. Program/Project Costs:

<u>YEAR</u>	<u>INVEST. COST (\$000)</u>	<u>RECURRING COSTS (\$000)</u>	<u>ANNUAL COST (\$000)</u>	<u>DISCOUNT FACTOR</u>	<u>DISCOUNTED ANNUAL COST (\$000)</u>
1	1,500	0	1,500	0.954	1,431.0
2		100	100	.867	86.7
3		100	100	.788	78.8
4		100	100	.717	71.7
5		300	300	.652	195.6
6		100	100	.592	59.2
7		100	100	.538	53.8
8		100	100	.489	48.9
9		100	100	.445	44.5
10		300	300	.405	121.5
11		100	100	.368	36.8
12		100	100	.334	33.4
13		100	100	.304	30.4
14		100	100	.276	27.6
15		100	100	.251	25.1
TOTALS				7.980	2,345.0

8. Uniform Annual Cost:

a. Without Terminal Value $\$2,345,000 - 7.980 = \$293,860$

b. N/A

Figure 4-1 Continued

9. Discounted Total Cost Without Terminal Value: \$2,345,000

a. Less Discounted Terminal Value	<u>0</u>
b. Net Discounted Total Cost	\$2,345,000

10. Source/Derivation of Cost Estimates:
(Use this section to provide detailed backup calculation)

11. Name and Title of Principal Action Officer:
John Doe, Chief Engineer
Date: 27 May 1984

Figure 4-1 Continued

ECONOMIC ANALYSIS - SUMMARY

Uniform Annual Costs:

Alternative #1 - New facilities	\$320,546
Alternative #2 - Alter existing facilities	\$293,860

Figure 4-1 Continued

BIBLIOGRAPHY

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